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26 October 66

NRO REVIEW COMPLETED.

MEMORANDUM FOR THE RECORD

SUBJECT : Addendum to 5-10-15 Year Projection
for Airborne Reconnaissance Systems.

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REFERENCE: [] 5-10-15 Year Projection for Airborne
Reconnaissance Systems, 15 September 1966

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[] Transmittal of 5-15 Year Papers
Relating to Quick Reaction Systems and Security
Contracting Policies, 7 June 1965

1. This memorandum contains some further considerations on the place of aircraft systems in the National Reconnaissance Program. (Details on aircraft systems which might be available in the time frame considered are given in the references.) Thus, this is an addendum to the fifteen year plan of the references and serves as a rationale for the continuation of aircraft systems as a part of the NRP.

2. The Future Role of Aircraft Reconnaissance Systems in the Agency Collection Inventory:

Aircraft systems rightly have been relegated to a secondary role in the collection of photographic and electronic intelligence. Nonetheless, this secondary role is significant and must be supported. Development and maintenance of this secondary class of systems is necessary because:

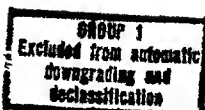
a. Aircraft can be defended more easily against attack than satellites and have a high probability of mission success. The merit of this will become apparent only at such time as the existing acquiescence to satellite reconnaissance disappears, either when the posture of the Soviet Union changes, or when some other power (such as Communist China) achieves and uses the capability of denial of satellite reconnaissance. (Current, moderately-sophisticated U.S. and Soviet missile systems have this capability now.) The denial of satellite reconnaissance of China by China would be, concurrently, a denial of all other satellite reconnaissance, including reconnaissance of the Soviet Union. The same satellite overflies the Soviet Union as overflies China; China cannot deny

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satellite reconnaissance of China without also denying satellite reconnaissance of the Soviet Union. A similar potential blockage exists regarding other powers, having sophisticated missile capability, if and when the relationships between the U.S. and such powers leads to their denial of U.S. satellite over-flight. The aircraft system is not subject to this restriction, as it can be selectively programmed regarding nations overflown. Advanced aircraft systems could provide a true back-up capability, valid against weapons which exist today, as well as against postulated future capabilities of other nations (presently either friend or foe).

b. Aircraft systems provide a capability of frequent reconnaissance of local areas, a situation approaching the tactical reconnaissance mission of the military; this reconnaissance can be obtained at any part of the world without direct impact on or over-flight of other areas, and the information can be made available to responsible parties in the immediate area. The cost per flight of aircraft systems for such missions is small compared to the cost per flight of the satellite systems, although the original cost of the aircraft system runs much higher than the satellite system. Satellite systems are most economic in the reconnaissance of large areas at reasonably predictable intervals.

c. Flexibility of basing of aircraft systems, and lack of definability of the nation using the systems allows a plausible denial by the U.S. The greatest defect in the plausibility of denial is the sophistication of the aircraft. The characteristics (radar and other) of sophisticated aircraft are such that a firm assignment to the nation of manufacture may be made; the assignment to the nation of operation cannot be so easily made.

d. In many cases, the aircraft systems can provide a more timely flow of information than can the current satellite systems.

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e. It appears from technical considerations that the aircraft systems, working at a more favorable photographic scale factor, can achieve adequate resolution over a wide swath without overtaxing the optical industry of this country.

f. The continuation of the development of high performance reconnaissance vehicles has important technological offshoots. The developments in the OXCART vehicle have had a significant impact on the development of the supersonic transport; similarly, the development of the next generation systems will have an impact on the development of hypersonic military vehicles, (possibly hypersonic civilian vehicles). As the projected advanced aircraft is only a step away from a space vehicle, the technology is of use in the fields of recoverable boosters and space rescue craft. Space rescue craft have received only lip service from the government to date; the first "THRESHER" of space will see the same impact on space rescue that the THRESHER of the ocean gave to deep submersibles and deep ocean rescue. In actuality, the psychological impact of a slow, lingering death in space would be manyfold greater than that from the quick loss in THRESHER.

These six points constitute the rationale for considering the development of advanced aircraft systems warranted, and for maintaining existing aircraft capabilities. A reasonable portion of the national photographic and electronic intelligence collection systems budget must be devoted to the development and operation of aircraft systems. This requirement for aircraft systems is valid even though our most advanced existing aircraft system (OXCART) is not actively employed, even for missions wherein it is the (technologically) best system for the task. In conclusion, we would not have the U-2 now extensively used in Vietnam and Cuba, as well as portions of China, if it had not been developed for its early missions in the Soviet Union and subsequently maintained in operational condition since.

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Assistant for Technology
Deputy for
Research and Development
Special Activities

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